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RECORDS CLASSIFICATION FORM FOR REGION V
RCRA RECORDSToday's Date: 7-28-2015Site Name: Refined Metals CorporationID Number: IND 000 718 130

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Workplan Environmental Indicator

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(Documents from FRC can be recalled in 48-72 hours)Submitted by: T. OweTelephone Number: 6-0991Comments: _____

Documentation of Environmental Indicator Determination

Interim Final 2/5/99

RCRA Corrective Action Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: Refined Metals Corporation
Facility Address: 3700 Arlington Avenue, Beech Grove, IN 46203
Facility EPA ID #: IND 000 718 130

1. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination?

☒ If yes - check here and continue with #2 below.

☐ If no - re-evaluate existing data, or

☐ If data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of Migration of Contaminated Groundwater Under Control EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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2. Is groundwater known or reasonably suspected to be contaminated¹ above appropriately protective levels (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

- ☒ If yes - continue after identifying key contaminants, citing appropriate levels, and referencing supporting documentation.
- ☐ If no - skip to #8 and enter AYE status code, after citing appropriate levels, and referencing supporting documentation to demonstrate that groundwater is not contaminated.
- ☐ If unknown - skip to #8 and enter IN status code.

Rationale and Reference(s):

Table 1 provides a list of exceedances based on Tables 1A-1L from *Final Corrective Measures Design (CMD), for Refined Metals Corporation, Beech Grove, Indiana*, prepared by Advanced Geoservices, revision dated September 6, 2013 and Tables 3a-3e; 4a-4b; and 6a-6e from *Annual Report of Groundwater Sampling Data for Refined Metals Facility*, prepared by Advanced Geoservices, dated March 31, 2014.

¹ Contamination and contaminated describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate levels (appropriate for the protection of the groundwater resource and its beneficial uses).

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3. Has the migration of contaminated groundwater stabilized (such that contaminated groundwater is expected to remain within existing area of contaminated groundwater² as defined by the monitoring locations designated at the time of this determination)?

☒ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the existing area of groundwater contamination²).

☐ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the existing area of groundwater contamination²) - skip to #8 and enter NO status code, after providing an explanation.

☐ If unknown - skip to #8 and enter IN status code.

Rationale and Reference(s):

Based on available data, the general extent of contamination has not changed significantly over the last several years, with data available for some wells for a 14-year period. For example, the groundwater flow is predominantly to the south/southeast, which places monitoring wells MW-5 and MW-6S in the downgradient direction. Total arsenic and lead (MCL criteria are 10 µg/L and 15 µg/L, respectively) concentrations in MW-5 in September 1999 were 8.4 µg/L and non-detect, respectively, while in November 2013 the concentrations were 4.0 and 0.72 µg/L, respectively. For well MW-06S, total arsenic and lead concentrations in September 1999 were 8.8 µg/L and 21.0 µg/L, respectively, while in November 2013 their concentrations were 1.7 µg/L and 0.3 µg/L, respectively. Note, historically the MCL criteria are exceeded at other monitoring wells that are in upgradient locations. This is further presented in various data tables (i.e., Tables 1A through 1L) provided in Reference 3. Analytical data and trends will be further evaluated as additional data become available.

Reference 3, Section 4.1.1 indicates that the results of the Phase I RFI sampling detected the presence of antimony, barium, cadmium, chromium, mercury, selenium and silver. With only some exceptions; concentrations of these parameters were consistently below the Region 9 Preliminary Remediation Goals (PRGs) used for screening results of the Phase I RFI sampling in the corrective action areas (i.e., areas outside the boundaries of the HWMUs). Therefore, only lead and arsenic were retained as constituents of concern

² "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of contamination that can and will be sampled/tested in the future to physically verify that all contaminated groundwater remains within this area, and that the further migration of contaminated groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

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in soil and sediment during corrective action measures. According to Table 1A from Reference 3, the MCL for selenium was exceeded one time at MW-1 in December 1999. The MCL for selenium is 50 µg/L and the level detected at MW-1 was 73 µg/L. Reference 3 (Tables 1A-L) indicate that no other selenium exceedances were detected in any onsite wells during sampling events between 1999 and 2007. Historic sampling detected antimony at a maximum concentration of 14 ug/l, exceeding the MCL of 6. Antimony has not been detected in recent sampling.

The assessment of concentration trends for iron and manganese is based on data from analysis conducted from 2007 to 2013 (2014 data not yet available). Data consists of semi-annual groundwater sampling (2007 to 2013) at monitoring wells MW-05, MW6SR, MW-9, MW-11 and MW-12. EPA's Regional Screening Level for iron is 14,000 micrograms per liter (ug/l) and 430 ug/l for manganese. Based on the data for the period 2007 to 2013, there does not appear to be a consistent trend for the iron and/or manganese data in these monitoring wells. For many of the monitoring wells, concentrations of both iron and manganese are actually higher during the middle or later portion of the time period. For MW-5, iron and manganese concentrations in January 2007 were 1,000 ug/l and 230 ug/l respectively, and were 1,400 ug/l and 260 ug/l respectively in April 2013. The lowest concentration in MW-5 for both constituents occurred in August 2007 (830 ug/l for iron and 170 ug/l for manganese) and the highest concentration for iron occurred in May 2011 at 2,700 ug/l for iron and in May 2012 at 280 ug/l for manganese. Similar concentrations and variability was noted in monitoring wells MW-9 and MW-12, while concentrations were slightly higher overall in MW-11. For MW-6SR, concentrations were an order of magnitude higher in general and an increasing trend noted. The iron and manganese concentrations in January 2007 were 2,600 ug/l and 99 ug/l respectively and were 15,000 ug/l for iron and 2,300 ug/l for manganese in April 2013. These concentrations also represent the lowest and highest concentrations for both constituents respectively. A high of 14,000 ug/l for iron was observed in May 2008, but concentrations decreased somewhat from 2008 until rebounding to the high in April 2013. Manganese concentrations rose from 2007s' low to the high in April 2013. Maximum concentrations of iron and manganese are greater than the RSL and additional monitoring will be conducted to further assess any trends and verify contamination remains within the existing area.

Based on the requirement for this component, it appears that the "migration" of contaminated groundwater is under control with regard to impacts remaining within the (historical) "existing area of contaminated groundwater" at/on the facility.

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4. Does contaminated groundwater discharge into surface water bodies?

- X If yes - continue after identifying potentially affected surface water bodies.
- If no - skip to #7 (and enter a YE status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater contamination does not enter surface water bodies.
- If unknown - skip to #8 and enter IN status code.

Rationale and Reference(s):

Based on the presence of multiple drainage canals, impoundment/lagoon and related surface water features at the site, the answer to this component is "yes." The Corrective Measures Design (Reference 3) discusses the planned remedial actions for drainage ditches (see Sections 4.4 and 6.4 of Reference 3) that have been impacted by run-off and erosion.

Off-site surface water bodies in the vicinity of the site are identified in Reference 1, Section 3.1, p. 16. There is an intermittent stream that flows from the northern portion of site to the northwest to the headwaters of **Beech Creek** (distance not provided). Historically, surface water from other areas of the site and the impoundment potentially flowed to a drainage ditch that flowed off-site to the east, and then to the south eventually discharging to **Sloan Ditch**. Sloan Ditch flows 0.6 mile west-southwest to **Churchman Creek**, which flows to the west 0.9 mile and discharges to Beech Creek. Beech Creek flows 1.2 miles to the southwest to **Lick Creek**, which then flows 7 miles to the **White River**.

Section 3.3., p. 17 states the sand and gravel glacial outwash that coincides with the courses of the White River and **Fall Creek** is the aquifer of greatest economic importance. The location of this aquifer generally coincides with the glacial melt water and outwash deposits along the major streams. Fall Creek enters White River upstream of the site. The White River sand and gravel aquifer is located approximately 5.3 miles west of the site. The sand and gravel aquifer is unconfined and flows toward and discharges to the surface water bodies.

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5. Is the discharge of contaminated groundwater into surface water likely to be **insignificant** (i.e., the maximum concentration³ of each contaminant discharging into surface water is less than 10 times their appropriate groundwater level, and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

 x If yes - skip to #7 (and enter YE status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration³ of **key** contaminants discharged above their groundwater level, the value of the appropriate level(s), and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

 If no - (the discharge of contaminated groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration³ of **each** contaminant discharged above its groundwater level, the value of the appropriate level(s), and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations³ greater than 100 times their appropriate groundwater levels, the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

 If unknown - enter IN status code in #8.

Rationale and Reference(s):

Based on information provided in historic RCRA Facility Investigations (References 1 and 2), and the CMD, it appears that documented impacts to surface water/sediment are limited. Section 4.4.4 of the CMD (Reference 3) states that only one sediment sample within the storm water lagoon exceeded the cleanup criterion for arsenic. As well, Section 4.4.4 of the CMD also states that respective discharge limits (for surface waters) developed for the temporary discharge permit have not been exceeded at the unit discharge point. As implementation of the CMD occurs, additional assessment will be conducted to further verify that the answer continues to be "yes."

It should be noted that iron and manganese have been detected in MW-3 and MW-6-6SR, although at concentrations less than ten times the RSL. Based on the levels detected, iron and manganese will be further evaluated for potential impacts to surface water. According to Section 5.5.2 of Reference 3, during the first two quarterly groundwater sampling events for MNA monitoring, samples will be analyzed for total and dissolved arsenic and lead, sulfide, sulfate, nitrate, arsenic speciation (arsenite/arsenate), iron speciation (ferric/ferrous), and manganese speciation (MnII/MnVII) for use in geochemical

³ As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

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modeling. Potential impacts to surface water will be reassessed after data from the second quarterly groundwater sampling event are available.

Reference 5 (Cover letter page 2 of 3) reports that 2013 sample results for total arsenic or lead find that for a "well by well comparison, none of the constituents analyzed exceeded the USEPA MCLs where such a value exists." With regard to trend analysis, Reference 5 also includes a summary of statistical analyses performed on data collected beginning in November 2007, as indicated below:

- Based on the statistical analysis for Site Specific Parameters relative to MW-9 presented in Appendix A, total and dissolved arsenic in MW-5 and total arsenic in MW-6SR indicated a statistically significant increase. The calculated t-value for total and filtered arsenic (i.e., dissolved) in MW-5 and total arsenic in MW-6SR shows "significant difference." The highest observed total result in MW-5 during 2013 was 4.8 µg/L and the highest filtered result in MW-5 during 2013 was 2 µg/L; while the highest observed result for the total arsenic in MW-6SR during 2013 was 7.7 µg/L, all of which are less than the MCL of 10 µg/L.
- Based on the statistical analysis for Site Specific Parameters relative to MW-11, a significant decrease exists for total arsenic in MW-12, with neither monitoring well being above the MCL of 10 µg/L. RMC began sampling MW-11 as an alternate background well after the November 2007 sampling event when results suggested that during low groundwater periods MW-9 may potentially be downgradient of a portion of the former facility operations.

Historically, according to Tables 1A-1L in Reference 3, two monitoring wells indicated the highest concentrations relative to respective screening values:

- During a January 24, 2007 sampling event, MW-3 indicated total arsenic at 170 µg/L (greater than 10 times the MCL of 10 µg/L). This result was considerably higher than the next highest reading at MW-3 (28 µg/L) and was attributed to high well turbidity during that sample event (Reference 3, Section 4.5, p. 4-7.)
- During the October 27, 2003 and January 25, 2007 sampling events total arsenic was reported at 290 µg/L and 190 µg/L respectively, and total lead was reported at 217 µg/L in MW-7/7S. At downgradient monitoring well MW-8:
 - Total arsenic was reported above the MCL at 13 ug/l and 19 ug/l during the December 11, 2011, and October 28, 2003 sampling events, respectively. Both of these sampling results are less than 10 times the MCL.
 - Total lead was reported above the MCL for all sampling events in 2001, 2003 and 2007 with the highest level of 55 ug/l reported during the October 28, 2003 sampling event. These concentration are less than 10 times the MCL.

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Based on the above information for the recently monitored wells, groundwater discharge into surface water bodies is likely to be insignificant.

6. Can the **discharge** of contaminated groundwater into surface water be shown to be **currently acceptable** (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented⁴)?

— If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the sites surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment,⁵ appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment levels, as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

— If no - (the discharge of contaminated groundwater can not be shown to be **currently acceptable**) - skip to #8 and enter NO status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

— If unknown - skip to 8 and enter IN status code.

Rationale and Reference(s):

⁴ Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refuge) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

⁵ The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

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7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the existing area of contaminated groundwater?
- ☒ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the existing area of groundwater contamination.
- ☐ If no - enter NO status code in #8.
- ☐ If unknown - enter IN status code in #8.

Rationale and Reference(s):

The CMD plans for soil, sediment and groundwater sampling concurrently with and following implementation of the Corrective Measures. In addition, multiple rounds of groundwater monitoring will occur in conformance with a MNA plan included as Attachment H to the CMD.

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8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

☒ **YE** - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the Refined Metals facility, EPA ID #IND 000 718 130, located in Beech Grove, Indiana. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

☐ **NO** - Unacceptable migration of contaminated groundwater is observed or expected.

☐ **IN** - More information is needed to make a determination.

Completed by

(signature)

(print)

(title)

Tamara Ohl

Corrective Action Project Manager

Date

9-23-14

Supervisor

(signature)

(print)

(title)

(EPA Region or State)

Tammy Moore

Section Chief, LCD, RRB, CAS2

Region 5

Date

9/23/14

Locations where References may be found:

EPA Region 5 Records Room, 7th Floor
77 West Jackson Boulevard
Chicago, IL 60604

Contact telephone and e-mail numbers

(name)

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Tamara Ohl

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Table 1
Summary of Inorganic Compounds Detected in Groundwater Beneath the Refined Metals Site
September 1999 - November 2013

Constituent	Historical Maximum On- Site Concentration (µg/L)	Monitoring Well Location	2013 Maximum On-Site Concentrations	Monitoring Well Location (Date)	US EPA MCL (µg/L)	Regional Screening Level for Tapwater (µg/L) ¹	Exceeds One or Both EPA Limits?
Total Metals							
Antimony	14	MW-8/8S	2.3 U	MW-12 (4/30/2013)	6	7.8	Yes
Arsenic	290	MW-7/7S	8.3	MW-11 (4/30/2013)	10	6	Yes
Barium	276	MW-4	-	-	2,000	3,800	No
Cadmium	0.8	MW-8/8S	-	-	5	9.2	No
Calcium	470,000	MW-7/7S	-	-	NA	NA	No
Chromium	26	MW-6S/6SR ²	-	-	100	NA	No
Iron	30,000	MW-3	15,000	MW-6SR (4/30/2013)	NA	14,000	Yes
Lead	217	MW-7/7S	13	MW-12 (4/30/2013)	15	NA	Yes
Magnesium	610,000	MW-10	-	-	NA	NA	No
Manganese	2,300 J	MW-6S/6SR ²	2300 J	MW-6SR (4/30/2013)	NA	430	Yes
Mercury	U	-	-	-	2	0.63	No
Selenium	73	MW-1	-	-	50	100	Yes
Silver	U	-	-	-	NA	94	No
Sodium	1,000,000	MW-10	-	-	NA	NA	No
Conventionals							
Chloride	450	MW-11	450	MW-11 (4/30/2013)	NA	NA	No
Sulfate	330	MW-9	290	MW-9 (4/30/2013)	NA	NA	No

Sources: 2013 Annual Report of Groundwater Sampling Data; Data Validation Report of Groundwater Samples Collected on April 30, 2013 for Inorganic and Conventional Analyses; Data Validation Report of Groundwater Samples Collected on November 12, 2013 for Inorganic and Conventional Analyses; Final Corrective Measure Design for Refined Metals Corporation, Beech Grove, Indiana.

Notes:

J - The analyte was positively detected; however the concentration was estimated as the result was less than the quantitation limit.

MCL - maximum contaminant levels

U - The analyte was not detected at the quantitation limit.

µg/L - micrograms per liter

¹ EPA Regional Screening Level for Tapwater TR = 1E-06 and THQ=1.0

² MW-6S reconstructed as MW-6SR between 12/15/1999 and 9/24/2001 sampling events

Yellow highlights indicate an exceedance of a screening value.

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
Interim Final 2/5/99

**RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)**

Current Human Exposures Under Control

Facility Name: Refined Metals Corporation.
Facility Address: 3700 South Arlington Avenue, Beech Grove, Indiana
Facility EPA ID #: IND 000 718 130

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

 X If yes - check here and continue with #2 below.
 If no - re-evaluate existing data, or
 if data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions **ONLY**, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database **ONLY** as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be "**contaminated**"¹ above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	x			lead and arsenic
Air (indoors) ²		x		
Surface Soil (e.g., <2 ft)	x			lead, arsenic, chromium cadmium and mercury
Surface Water		x		
Sediment	x			lead and arsenic
Subsurf. Soil (e.g., >2 ft)	x			lead, arsenic, cadmium,. Chromium and mercury
Air (outdoors)		x		

_____ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

X If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

_____ If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and Reference(s): The heavy metals listed above have been detected in soils, ditch sediments and groundwater in varying concentrations exceeding the recommended PRG and the Risk Integrated System of Cleanup (RISC) levels set by the IDEM. For example, lead concentration in soils range from 32,000mg/kg to 216mg/kg,, arsenic concentration range from 323mg/kg to 3.9mg/kg e.t.c. Lead and arsenic are the only metals detected above MCL in the onsite monitoring wells.

3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

¹ "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

² Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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Potential Human Receptors (Under Current Conditions)

<u>"Contaminated" Media</u>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
Groundwater	No	No	No	Yes	No	No	No
<u>Air (indoors)</u>							
Soil (surface, e.g., <2 ft)	No	No	No	Yes	No	No	No
Surface Water							
Sediment	No	No	No	Yes	Yes	No	No
Soil (subsurface e.g., >2 ft)	No	No	No	Yes	No	No	No
<u>Air (outdoors)</u>							

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated" as identified in #2 above.
2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

_____ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

X_____ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.

_____ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code.

Rationale and Reference(s): The heavy metals identified in onsite soils and groundwater exceeding the PRG and the IDEM RISC threshold are complete pathways for construction workers. The metals detected above the PRG in ditch sediment is a complete pathway for trespassers. Construction workers involved in closure activities may potentially have exposure to contaminated soil. These pathways are not complete for residents, day care, onsite workers, trespassers, recreation or food because access to the soil is restricted by a fence and security camera. The groundwater is not used as a drinking water source. Therefore, it is not a complete pathway.

4. Can the exposures from any of the complete pathways identified in #3 be reasonably expected to be

³ Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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Environmental Indicator (EI) RCRIS code (CA725)
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“significant”⁴ (i.e., potentially “unacceptable” because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable “levels” (used to identify the “contamination”); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable “levels”) could result in greater than acceptable risks)?

_____ If no (exposures can not be reasonably expected to be significant (i.e., potentially “unacceptable”) for any complete exposure pathway) - skip to #6 and enter “YE” status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

 X If yes (exposures could be reasonably expected to be “significant” (i.e., potentially “unacceptable”) for any complete exposure pathway) - continue after providing a description (of each potentially “unacceptable” exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

_____ If unknown (for any complete pathway) - skip to #6 and enter “IN” status code

Rationale and Reference(s): Trespassers are not expected to have significant exposures because there is a six foot high chain link fence topped with barbed wire and the gate is either locked or guarded. Construction workers in the area would be exposed to soil with heavy metals concentrations higher than the 750mg/kg PRG threshold and the RISC proposed by IDEM. For example, construction workers working on closure activities would be exposed to contaminated soil and groundwater.

5. Can the “significant” exposures (identified in #4) be shown to be within acceptable limits?

 X If yes (all “significant” exposures have been shown to be within acceptable limits) - continue and enter “YE” after summarizing and referencing documentation justifying why all “significant” exposures to “contamination” are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

_____ If no (there are current exposures that can be reasonably expected to be “unacceptable”)- continue and enter “NO” status code after providing a description of each potentially “unacceptable” exposure.

_____ If unknown (for any potentially “unacceptable” exposure) - continue and enter “IN” status code

⁴ If there is any question on whether the identified exposures are “significant” (i.e., potentially “unacceptable”) consult a human health Risk Assessment specialist with appropriate education, training and experience.

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Rationale and Reference(s): The assumption used to calculate PRGs are more conservative than the actual exposure onsite. With the exception of the adjacent drainage ditch which in the past received runoffs from the facility, a greater proportion of the contaminated areas are located within the facility boundary and the land is zoned for industrial use. With respect to the drainage ditch, there is an ongoing interim measures in place to address the contamination. Contaminated sediment are currently been excavated from the ditch and taken offsite for disposal. This temporary measure was taken, pending selection of final remedy of the ditch. In addition, the outdoor and indoor waste piles have been completely removed, the Breaker building has been dismantled and the facility is no longer operational. The entire facility grounds have been paved over with concrete. The facility is also fenced and the main entry point is controlled by security guard. The site is not used for habitation, has no full time residents, and does not house any educational, healthcare, day care, or play ground facilities. No recreational areas are located within the facility boundary, and no growth of crops, grazing of livestock, harvesting of fish occurs on the property. Consequently, the only exposure to the impacted soils/sediment is through very infrequent trespasser activities in the area within the ditch. Furthermore, the potential for disturbance in the area is almost nonexistent because the area is covered with concrete soils are not expected to either become airborne through disturbance or to be transported from the area via worker foot gear. Therefore, potential exposures to the impacted soils are negligible. Exposures to construction workers will be under acceptable limits because the activities will be conducted in accordance with the health and safety plan included in the closure plan. This plan refers to OSHA standards.

6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

 X YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in draft RFI report, "Current Human Exposures" are expected to be "Under Control" at the **Refined Metals Corporation** facility, EPA ID # **IND 000 718 130**, located at **3700 South Arlington Ave. IN**. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

 NO - "Current Human Exposures" are NOT "Under Control."

 IN - More information is needed to make a determination.

Completed by

(signature)

Jonathan Adenuga

Date

10/8/02

(print)

Jonathan Adenuga

(title)

Project Manager, U.S. EPA.

Supervisor

(signature)

George J. Hamp

Date

10-8-02

(print)

Joseph M. Boyle

(title)

Chief Enforcement & Compliance
Assurance Branch

(EPA Region or State)

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)
Page 6

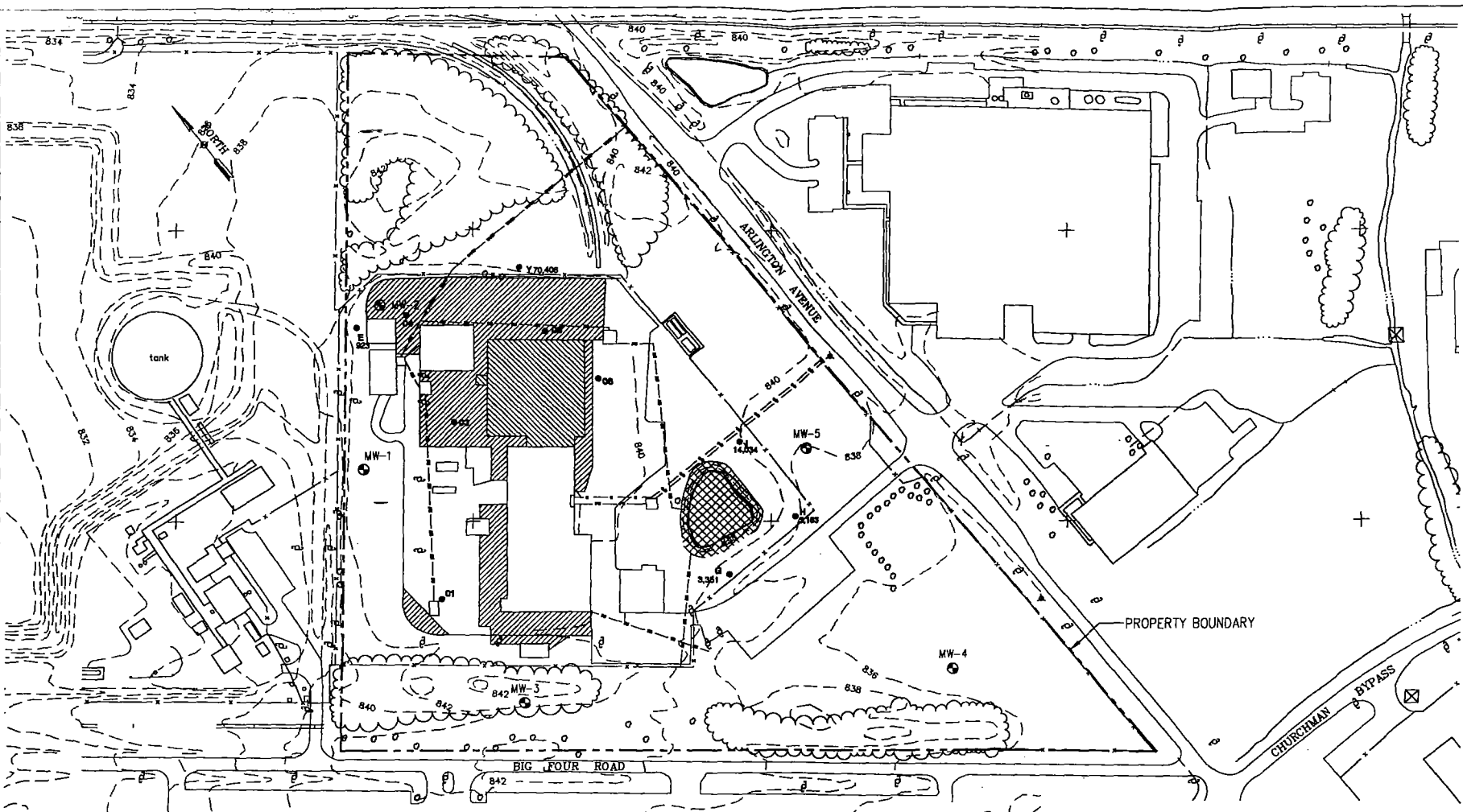
Locations where References may be found:

U.S. EPA Region 5
7th Floor Record Center
77 West Jackson Blvd.
Chicago, Illinois 60604

Contact telephone and e-mail numbers

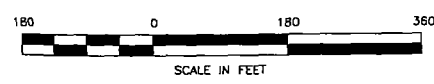
(name)	<u>Jonathan Adenuga</u>
(phone #)	<u>(312) 886-7954</u>
(e-mail)	<u>adenuga.jonathan@epa.gov</u>

FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.



- LEGEND**
- A
18,576
 - [Hatched Box]
 - [Cross-hatched Box]
 - [Dotted Box]
 - MW-3
 - FENCE

- SAMPLE LOCATION
- XRF RESULT (PPM)
- OUTDOOR WASTE PILES
- INDOOR WASTE PILES
- LINED SURFACE WATER IMPOUNDMENT
- GROUNDWATER MONITORING WELLS
- PROPERTY BOUNDARY
- FENCE



NOTE: SAMPLE LOCATIONS ARE APPROXIMATE. SAMPLES WERE COLLECTED AND ANALYZED BY ENTACT, DURING APRIL, 1996

**REFINED METALS CORPORATION
CLOSURE PLAN**
BEECH GROVE, INDIANA

CONCENTRATIONS OF LEAD IN
EXTERIOR SURFACE (0-4") SOIL SAMPLES
LOCATED NEAR OUTSIDE SWMUS



Advanced GeoServices Corp.
Chadds Ford Business Campus, Rts. 202 & 1
Brandywine One, Suite 202
Chadds Ford, Pennsylvania 19317

Date: 10/12/98
Scale: 1"=180'
Drawn By: P.S.G.
Checked By: S.W.K.
Project Mgr: P.G.S.
Dwg No. 98478-09

Project No. 98-478-02

FIGURE: 10-4

OCT 12 1998

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

**RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)**

Migration of Contaminated Groundwater Under Control

Facility Name: Refined Metals Corporation
Facility Address: 3700 S. Arlington Avenue, Indianapolis, IN
Facility EPA ID #: IND 000 718 130

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

☒ **X** If yes - check here and continue with #2 below.

☐ If no - re-evaluate existing data, or

☐ if data are not available, skip to #8 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains **ONLY** to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database **ONLY** as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

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2. Is **groundwater** known or reasonably suspected to be "**contaminated**"¹ above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

☒ **X** If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

☐ If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

☐ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): Arsenic was detected above background concentration and lead was detected above the IDEM residential default RISC criteria in groundwater samples collected from certain onsite monitoring wells. The highest arsenic concentration detected was 290 ppb in MW-7 and the lowest was .045 ppb in MW-11. The highest lead concentration was detected in MW-7 at 217 ppb and the lowest concentration was 1.3 ppb in MW-3.

Footnotes:

¹"Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"² as defined by the monitoring locations designated at the time of this determination)?

☒ **X** If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"².

☐ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"²) - skip to #8 and enter "NO" status code, after providing an explanation.

☐ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): Groundwater sampling over the past four years indicate that contaminated groundwater at the facility is localized and is not migrating. Based on the groundwater data, it appears that arsenic contamination in the groundwater is located within the vicinity of upgradient monitoring wells #1, #3 and #7 located within baghouse building, the battery breaker building and south of the warehouse building formerly used as an outdoor waste pile areas. The arsenic concentration range from 21 ppb to 33 ppb in well #1, 7 ppb to 28 ppb in well #3 and 25 ppb to 290 ppb in well #7. Lead concentration range from 3.4 to 5.9 ppb in well #1, 11 ppb to 84 ppb in well #2, non detect to 1.3 in well #3, 19 ppb to 217 ppb in well #7. However, downgradient monitoring wells #4, #5, #6, #8 and #11 statistically show no increase in arsenic contamination. Arsenic contamination range from 1.3 to 1.8 ppb in well #4, 7.7 to 8.8 ppb in well #6, 5.1 to 19 ppb in well #8 and .045 to 7.1 ppb in well #11. Lead concentration range from non-detect in downgradient well #4 to 23 ppb in well #8. Additionally, shallow groundwater at the site is

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

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believed to represent a local perched zone of saturation. The potentiometric surface for groundwater is approximately 10 feet bgs. A substantial thickness of silt and clay is deposited below the shallow zone of saturation and overlies the regional uppermost aquifer at a depth of 130 feet bgs. There is no direct hydraulic connection between the shallow perched zone and the uppermost semi-confined aquifer.

There are no ongoing operations at the facility, the outdoor and the indoor waste piles have been removed and ninety percent of the site has been paved over with concrete. Consequently, it is unlikely that contamination will migrate.

² "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

4. Does "contaminated" groundwater **discharge** into **surface water** bodies?

_____ If yes - continue after identifying potentially affected surface water bodies.

 X If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): Existing data indicates groundwater is at a depth of approximately 10 feet bgs and groundwater contamination does not migrate offsite. There are no surface water bodies onsite.

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be "**insignificant**" (i.e., the maximum concentration³ of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

_____ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration³ of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

_____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

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suspected concentration³ of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations³ greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s): _____

³ As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be "**currently acceptable**" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented⁴)?

_____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment,⁵ appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface

Migration of Contaminated Groundwater Under Control
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water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of "contaminated" groundwater can not be shown to be **"currently acceptable"**) - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

_____ If unknown - skip to 8 and enter "IN" status code.

Rationale and Reference(s): _____

⁴ Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

⁵ The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

___**X**___ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

_____ If no - enter "NO" status code in #8.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s): A corrective measures plan has been approved for additional on and offsite soil and groundwater investigation for the development of a remedy selection. In addition, a groundwater

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

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monitoring plan has been submitted to IDEM for additional monitoring of onsite monitoring wells.

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

X_____ YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the Refined Metals Corp. facility, EPA ID # IND 000 718 130, located at 3700 S. Arlington Ave, Indianapolis, IN. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

_____ NO - Unacceptable migration of contaminated groundwater is observed or expected.

_____ IN - More information is needed to make a determination.

Completed by

(signature)

(print) Jonathan Adenuga

(title) Environmental Scientist

Date

3/31/04

Supervisor

(signature)

(print) George Hamper

(title) CAS Chief

Date

3-31-04

(EPA Region or State) Reg. V

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

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Locations where References may be found: Waste Management Division Records Center

77 West Jackson Blvd., 7th Floor

Chicago, IL 60604

(312) 353-5821

Hours: Mon-Fri, 8:30 a.m.-5:00 p.m.

Contact telephone and e-mail numbers

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